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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/985,905 | 11/06/2001 | Ju Hyun Lee | MRE-0037 | 4530 |
| 34610 | 7590 | 09/07/2004 | EXAMINER | |
| FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153 | | | CHAWAN, SHEELA C | |
| | | ART UNIT | PAPER NUMBER | |
| | | 2625 | | |
| DATE MAILED: 09/07/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|------------------------------|------------------------|---------------------|--|
| | 09/985,905 | LEE, JU HYUN | |
| Examiner | Art Unit | | |
| Sheela C Chawan | 2625 | | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 06 November 2001.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-7 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 4.6 and 7 is/are allowed.

6) Claim(s) 1-3 is/are rejected.

7) Claim(s) 5 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 06 November 2001 is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Drawings filed on 11/6/01 have been approved by the examiner.

Specification

3. The disclosure is objected to because of the following informalities:

Page 2, line 4, change "filed" to --field--.

Page 3, line 19, change "filed" to --field --.

Page 5, line 22, change "filed" to -- field --.

Appropriate correction is required.

Claim Objections

4. Claims 1 and 5 are objected to because of the following informalities:

Claim 1, line 10, change "filed" to -- field -- .

Claim 5, line 5, change " electrodes1" to -- electrodes --.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented

and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103 (a) as being unpatentable over applicant's admitted prior art (Figure 1; page 1 line 23 to page 2 line 9 of the specification) in view of Suga (US 6,234,031 B1).

As per claim 1, applicant's admitted prior art discloses a fingerprint recognizing device (figure 1) comprising:

a transparent electrode layer to which one terminal of an AC power source is connected (layer 2 in figure 1 is a transparent electrode layer; see the instant application page 1, lines 23-26);

a light emitting layer (layer 3 in figure 1 is a light emitting layer) formed on the transparent electrode layer (2) and a finger (10) forming a ground contact when being contacted with the finger and emitting light by this electric field for generating an optical fingerprint image according to ridge lines (10a) on a fingerprint image formed on the finger (The instant application page 1 line 26 to page 2 line 6);

a transparent insulating layer (layer 1 in figure 1 is a transparent electrode layer) formed at the bottom of the transparent electrode layer and for transmitting the optical image generated from the light emitting layer (The instant application page 2, lines 6-9).

Applicant does not specifically disclose a plurality of patterned floating electrodes arranged on the surface of the light emitting layer at a predetermined interval and turned on/off to output the optical fingerprint image. Suga discloses a fingerprint detection apparatus comprising a plurality of patterned floating electrodes arranged on the

surface of the light emitting layer at a predetermined interval and turned on/off to output the optical fingerprint image (detection electrodes 103 in figure 6 refer to a plurality of floating electrodes for detecting the pattern of the fingerprint; column 9, lines 1-25, contact of finger to the surface turns electrode on and removal of finger turns the electrode off). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the admitted prior art to include the plurality of floating electrodes arranged on the surface of the light emitting layer at a predetermined interval and turned on/off to output the optical fingerprint image. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the admitted prior art by the teaching of Suga for the purpose of transferring stably the concave and convex patterns of the fingerprint to the flexible electrode irrespective of a wet condition or a dry condition of the finger, output signals are not influenced by a dry or wet condition of the finger (as suggested by Suga at column 7, lines 42- 46).

As per claim 2, the admitted prior art does not clearly disclose that the device further comprises an insulating layer formed on the upper portions of the floating electrodes in order to prevent the penetration by impurities between the plurality of pattered floating electrodes and make the floating electrode stronger against a wet finger. Suga discloses the fingerprint recognizing device, wherein the device further comprises an insulating layer (surface protective layer 107 in figure 6 corresponds to an insulating layer) formed on the upper portions of the floating electrodes (detection electrodes 103 in figure 6 provides floating electrodes) in order to prevent the

penetration by impurities between the plurality of pattered floating electrodes and make the floating electrode stronger against a wet finger; (see also column 9, lines 10-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the admitted prior art to include an insulating layer formed on the upper portions of the floating electrodes in order to prevent the penetration by impurities between the plurality of pattered floating electrodes and make the floating electrodes stronger against a wet finger. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the admitted prior art by the teaching of Suga in order to prevent flexible electrode from being touched directly by a finger to prevent damage to or corrosion of flexible electrode and is formed thin from a plastic film or a like film so as not to disturb deformation of deformation layer (as suggested by Suga at column 9, lines 47- 52).

As per claim 3, the admitted prior art does not clearly disclose a dielectric layer formed between the patterned floating electrodes and the light emitting layer in order to increase the luminance of the light emitting layer. Suga discloses the fingerprint recognizing device, wherein the device further comprises a dielectric layer (protective layer 102 in figure 6 corresponds to a dielectric layer, see column 9, lines 19-25, 34-37) formed between the patterned floating electrodes (103) and the light emitting layer (figure 6) in order to increase the luminance of the light emitting layer. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the admitted prior art to include a dielectric layer formed between the patterned floating electrodes and the light emitting layer. It would have been obvious to one of

ordinary skill in the art at the time of the invention to have modified the admitted prior art by the teaching of Suga for the purpose of variations of the electrostatic capacities between flexible electrode and detection electrodes are converted into electric signals and outputted as a pattern of the fingerprint (as suggested by Suga at column 9, lines 64 - 67).

Allowable Subject Matter

6. Claims 4 and 6 -7 are allowed because the prior art on record fails to teach or suggest alone or in combination for fabricating a fingerprint recognizing device comprising among other things, "mixing 25 ~ 35 wt. % dielectric polymer paste, a 25 ~ 29 wt. % retarder, and 30 ~ 50 wt. % dopant -doped luminous powder and then forming a light emitting layer on the top of the transparent electrode layer using the mixture".

Claim 5 would be allowable if rewritten to overcome the minor claim objection, set fourth in this office action.

Other prior art cited

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dickinson et al., (US.6,501,846 B1) discloses method and system for computer access and cursor control using a relief object image generator.

Basol et al., (US.5,985,691) discloses method of making compound semiconductor films and making related electronic devices.

Chae (US.6,688,186 B2) discloses slim type fingerprint recognition device using contact light emitting device and thin film transistor fingerprint input device.

Pires (US.6,411,726 B1) discloses fingerprint detector using an EL lamp.

Nakagawa et al., (US.6,525,788 B1) discloses liquid crystal display device.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela C Chawan whose telephone number is 703-305- 4876. The examiner can normally be reached on Monday - Thursday 6 - 7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703-308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sheela Chawan
Sheela Chawan
Patent Examiner
Group Art Unit 2625
September 2, 2004